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HEWLETT-PACKARD COMPANY
Intellectual Property Administration
P.O. Box 272400
Fort Collins, CO 80527-2400

EXAMINER	
PWU, JEFFREY C	

ART UNIT	PAPER NUMBER
2143	

DATE MAILED: 10/12/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/991,340	ROLIA, JEROME	
	Examiner	Art Unit	
	Jeffrey C. Pwu	2143	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 1-24 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 1-24 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

RD

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claims 1, 10, and 16 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The disclosure lacks clear written description in the description of the limitation "wherein each of said plurality of service level objectives are dynamically changeable without predefinition". It is unclear what are the dynamic changeable objectives relative to a predefinition. It is also unclear what is a predefinition.

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1, 10 and 16 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claims 1, 10 and 16 are vague and indefinite because it is unclear of the limitation "wherein each of said plurality of service level objectives are dynamically changeable without predefinition". It is unclear what is a

dynamic changeable objective relative to a predefinition and it is unclear what is a predefinition.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 1-4, 8, 16-19, and 23 are rejected under 35 U.S.C. 102(e) as being anticipated by Zinky et al. (Zinky), (US 6,691,148 131)

Regarding claim 1, Zinky teaches in a communication network having a plurality of computational resources for servicing a plurality of application environments, a method for enabling resource sharing, comprising: a) monitoring quality of service provided from a plurality of components coupled together in a first application environment supporting a first application (Zinky teaches the system conditions which are software components are used to monitor QoS. These software components are in the objects-oriented application) (Col. 5, L. 23-25; and Col. 8, L. 11-12; and Col. 9, L. 26-29); b) determining whether a plurality of service level objectives are satisfied, each of said plurality of

service level objectives associated with one of said plurality of components (Zinky teaches a contract which define varying level of QoS. When the contract receives the monitoring values of the system conditions, it depicts the desired QoS level for each of system condition. Moreover, the contract associates with these system conditions to determine whether QoS requirements are satisfied by providing their reports of the level of QoS) (Col. 6, L. 49-55 and Col. 7, L. 7-9), wherein each of said plurality of service level objectives are dynamically changeable without predefinition (col.2, lines 10-25; "Through the use of this general purpose mechanism, a programmer obtains information regarding the dynamic system properties of the distributed system to facilitate the development of distributed, object-oriented applications. The mechanism supports QoS by permitting a client program in the distributed system to request a desired QoS, monitoring system conditions to provide the requested QoS, and reporting deviations to the client program to allow the program an opportunity to adapt to changes in the system conditions." – col.4, lines 4-14; also see col.7, lines 42-47); and c) optimizing the number of computational resources from said plurality of computational resources in each of said plurality of components in order to satisfy said plurality of service level objectives (Zinky teaches "request changes to the allocation of system resources or to adapt to changing resource availability". It can be interpreted as optimizing the number of system resources which need to be changed to satisfy or meet the QoS requirements. These system resources are in the client application .component) (Col. 6, L. 30-35).

Regarding claim 2, Zinky teaches the method for enabling resource sharing as described in Claim 1, wherein a) comprises: a1) determining a plurality of metrics, each of said plurality of metrics characterizing quality of service for a particular component in said plurality of components (Zinky teaches a value of the system condition is set by the client, and the contract attempts to achieve this value to a QoS level) (Col. 7, L. 19-25); a2) sending said plurality of metrics to a dynamic resource manager (Zinky teaches when a region transition occurs, the: contracts sends a control command which includes the values of the system conditions; to a central resource utilization controller) (Col. 11, L. 5-29).

Regarding claim 3, Zinky teaches the method as described in 1, wherein said plurality of components are flexibly sized partitions of an electronic device (Col. 5, L. 310).

6. Regarding claim 4, Zinky teaches the: method for enabling resource sharing as described in Claim 2, wherein b) comprises: b1) at said dynamic resource manager, comparing each of said plurality of metrics to an associated service level objective in said plurality of service level objectives, each of said plurality of service level objectives associated with one of said plurality of components (Zinky teaches the central resource utilization controller in Quo system allocates the set of resources using the system conditions, and then return the value of each system condition. The contract checks and adjusts this value to achieve the QoS level or the current contract region) (Col. 9, L. 34-46 and Col. 7, L. 23-25); and b2) determining whether each of said plurality of metrics fall within an associated interval for said associated service level objective (Zinky teaches the contract determines whether a given value of the system condition (or the

actual measured QoS) falls within the bounds of a reality region) (Col. 6, L. 22-25, and Col. 7, L. 17-22, 39-41, 47-56; and figure 4).

Regarding, claim 8, Zinky teaches the method for enabling resource sharing as described in Claim 1, wherein b) comprises: determining each of said plurality of service level objectives (figure 4 and 5).

Regarding claim 16, Zinky teaches a communication network comprising: a plurality of computational resources (Col. 4, L. 1-3); an application environment having a plurality of network nodes coupled together (Zinky teaches in an object-oriented application has client and remote computers) (Col. 5, L. 17-25); a plurality of components in said application environment servicing an application, each of said plurality of components including at least one computational resource from said plurality of computational resources, each of said plurality of components residing on one of said plurality of network nodes (Col. 5, L. 17-25, and Col 3, L. 65-Col. 4, L. 3); and a dynamic resource manager residing coupled to said application environment for optimizing the number of computational resources from said plurality of computational resources in each of said plurality of components in order to satisfy quality of service objectives for said application (Zinky teaches urequest changes to the allocation of system resources or to adapt -to changing resource availability". It can be interpreted as optimizing the number of system resources which need to be changed to satisfy or meet the QoS requirements. These system resources are in the client application component.

Moreover, a central resource utilization controller provides and controls resource utilization) (Col. 6, L. 30-35; and Col. 9, L. 34-36)., wherein each of said plurality of service level objectives are dynamically changeable without predefinition (col.2, lines 10-25; "Through the use of this general purpose mechanism, a programmer obtains information regarding the dynamic system properties of the distributed system to facilitate the development of distributed, object-oriented applications. The mechanism supports QoS by permitting a client program in the distributed system to request a desired QoS, monitoring system conditions to provide the requested QoS, and reporting deviations to the client program to allow the program an opportunity to adapt to changes in the system conditions." – col.4, lines 4-14; also see col.7, lines 42-47);

Regarding claim 17, Zinky teaches the communication network as described in Claim 16, further comprising: a plurality of component managers, each of said plurality of component manager monitoring quality of service levels in one of said plurality of components, and for managing the addition and removal of computational resources in said one of said plurality of components in response to notices from said dynamic resource manager application (Zinky teaches "This transition behavior may be executed within the client application, or elsewhere in the running application, and is typically used to request changes to the allocation of system resources or to adapt to changing resource availability". First of all, the client application can be interpreted as the component manager of a plurality of components. The client application can change resources to satisfy or meet the QoS requirements. Changing resources can be

interpreted as adding or removing resources) (Col. 6, LAO-35; and Col. 9, L. 34-36; and Col. 9, L. 34-36).

Regarding claim 18, Zinky teaches the communication network as described in Claim16, further comprising: a plurality of metrics, one' for each of said plurality of components for measuring quality of service levels provided at each of said plurality of components, said plurality of metrics monitored by a plurality of component managers, one for each of said plurality of components (Zinky teaches a value of the system condition is set by the client component (the client component can be interpreted as a component managers), and the contract, which is another software component, attempts to achieve this value to a QoS level) (Col. 7, L. 19-25).

Regarding claim 19, Zinky teaches the communication network as described in Claim 16, wherein quality of service objectives further comprise: a plurality of service level objectives, each of said plurality of service level objectives associated with one of said plurality of components, each of said plurality of service level objectives characterizing quality of service levels for a particular component in said plurality of components (Zinky teaches the value of the system component is monitored by the system condition, and the contract attempts to achieve this value to a QoS level. Thus, it can be interpreted as each QoS level is associated with each system component) (Col. 7, L, 19-25; and Col. 9, L. 26-32).

Regarding claim 23, Zinky teaches the communication network as described in Claim16, further comprising: a second application environment supporting a second application (Zinky teaches beside the object-oriented application, there is a multimedia application environment supports for multimedia application) (Col. 1, L. 42-49).

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

7. Claims 5-7, and 20-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zinky et al. (Zinky), (US 6,691,148 B1)

Regarding claim 5, Zinky taught the method for enabling resource sharing as described in Claim 4, wherein c) comprises: sending a message to one of said plurality of components having a corresponding service level objective and corresponding interval to modify at least one available computational resource from said plurality of computational resources when an associated metric exceeds said corresponding interval. Zinky teaches sending a request to the client application to change resource availability. Zinky fails to teach that modify includes adding a resource. Changing resource availability can. be interpreted as adding resources when the value exceeds

the "Normal" level or QoS (Col. 6, L. 26-35). At the time the invention was made, it would have been obvious to one of ordinary skill in the art to add resources availability in order to give the client application an opportunity to observe the high QoS and modify its behavior accordingly.

Regarding claim 6, Zinky taught the method for enabling resource sharing as described in Claim 4, wherein c) comprises: sending a message to one of said plurality of components having a corresponding service level objective~and a corresponding interval to modify at least one computational resource, a modified computational resource, in said plurality of computational resources that are assigned to said one of said plurality of components when an associated metric falls short of said corresponding interval. Zinky teaches sending a request to the client application to change resource availability. Changing resource availability can be interpreted as removing resources when the value falls short of the "Normal" level or QoS. Moreover, Zinky also teaches thereby freeing up said modified computational resource for a second application supported by a second application environment in said communication network. Zinky teaches the QoS improvements are made available to client applications. Zinky fails to teach that the QoS improvements include removing. Thus, the QoS improvements can be interpreted as adding, or removing resources, and then making them available to other client applications (Col. 6, L. 26-35, and Col. 7, L. 54-61, and Col. 5, L. 58-60). At the time the invention was made, it would have been obvious to one of ordinary skill in the art to remove resources availability in order

to the client application uses this opportunity to change its operating behavior in accordance with the improved QoS.

Regarding claim 7, Zinky taught the method for enabling resource sharing as described in Claim 4, wherein c) comprises: perform no action, if, at said dynamic resource manager, one of said plurality of metrics, that is associated with a corresponding component in said plurality of components and associated with a corresponding interval for an associated service level objective, meets said corresponding interval. Zinky teaches if the value. of the system condition falls within the bounds of a "Normal.Normal" reality region, the QoS is achieved (Col. 6, L. 20-25, and Col. 7, L. 32-41). Although Zinky does not explicitly teach closing the performance of no action, it is well known in the art that once the actual measured QoS is in the normal reality region, it does not need to execute any transition. At the time the invention was made, it would have been obvious to one of ordinary skill in the art to perform no action if a plurality of metrics rneets corresponding interval in order to the client application to observe its operating behavior in accordance with the satisfied QoS.

Regarding claim 20, Zinky teaches the communication network as described in Claim18, wherein said plurality of service level objectives further comprise:
a plurality of intervals, each of said plurality of intervals associated with one of said plurality of service level objectives, each of said plurality of intervals defining satisfactory ranges of metrics (Col. 6, L. 36-41, L. 56-65). Zinky fails to teach an upper boundary for

each of said plurality of intervals, wherein metrics exceeding said upper boundary are unacceptable, requiring additional resources or computational resources at the associated node. Zinky teaches sending a request to the client application to change resource availability. Changing resource availability can be interpreted as adding resources when the value exceeds the "Normal" level or QoS (Col. 6, L. 26-41, L. 56-65). At the time the invention was made, it would have been obvious to one of ordinary skill in the art to add resources availability in order to give the client application an opportunity to observe the high QoS and modify its behavior accordingly.

Zinky fails to teach a lower boundary, for each of said plurality of intervals, wherein metrics falling below said lower boundary indicate quality of service is exceeded, requiring removal of resources or computational resources at the associated node. Zinky teaches sending a request to the client application to change resource availability. Changing resource availability can be interpreted as removing resources when the value falls short of the: "Normal" level or QoS. Moreover, Zinky also teaches the QoS improvements are made available to client applications. It also can be interpreted as QoS improvements include adding, or removing resources. Thus, removed resources will become available resources to other client applications (Col. 6, L. 26-41, L. 56-65, and Col. 7, L. 54-61, and Col. 5, L. 58-60). At the time the invention was made, it would have been obvious to one of ordinary skill in the art to remove resources availability in order to the client application uses this opportunity to change its operating behavior in accordance with the improved QoS).

Regarding claim 21, Zinky taught the communication network as described in Claim 18 further comprising: an modify message, said modify message created by said dynamic resource manager when a metric for an associated component exceeds an associated interval, said modify message sent from said dynamic resource manager to said associated component. Zinky teaches sending a request to the client application to change resource availability. Zinky fails to teach adding as a form of modifying. Changing resource availability can be interpreted as adding resources when the value exceeds the "Normal" level or QoS. In addition, the request will be sent to the client application component from the central resource utilization controller (Col. 6, L. 26-35; and Col. 9, L. 34-46). At the time the invention was made, it would have been obvious to one of ordinary skill in the art to add request in order to give the client application an opportunity to observe the high QoS and modify its behavior accordingly.

Regarding claim 22, Zinky taught the communication network as described in Claim 18, further comprising: a modify message, said modify message created by said dynamic resource manager when a metric for an associated component falls below an associated interval, said modify message sent from said dynamic resource manager to said associated component. Zinky teaches sending a request to the client application to change resource availability. Zinky fails to teach~removing as a form of modifying. Changing resource availability can be interpreted as removing resources when the value falls below the "Normal" level or QoS. In addition, the request will be sent to the client application component from the central resource utilization controller (Col. 6, L.

26-35, and Col. 7, L. 54-61, and Col. 5, L. 58-60; and Col. 9, L. 34-46). At the time the invention was made, it would have been obvious to~one of ordinary skill in the art to create a removed request in order to, the client application uses this opportunity to change its operating behavior in accordance with the improved QoS.

8. Claims 9-15 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zinky et al. (Zinky), (US 6,691,148 131) as applied to claim 1 above, and further in view of Friedrich et al. (Friedrich), (US 6,003,079)

Regarding claim 9, Zinky fails to teach a plurality of metrics is a response-time metric. However, Zinky teaches "a quality object (QUO) framework integrates knowledge of system properties over time,, space, and source to facilitate proper operation of a distributed application" (Col. 3, L. 5-7) as a value, such suggestion would motivate one ordinary skilled in the art to seek a practical and effective way of doing so. Friedrich teaches the method for enabling resource sharing as described in Claim 2, wherein each of said plurality of metrics is a response-time metric (Col. 6, L. 11-15).

Thus, it would have been obvious to one of ordinary skill in the art the time the invention was made to have incorporated the response-time metric, as suggested by Friedrich, in a system provides quality of service across a distributed object-oriented computer network of Zinky, in order to identify and measure quality of service in clientserver (or other components) and distributed applications operating in a plurality of application environments.

Regarding claim 10, Zinky teaches in, a communication network having a plurality of computational resources for supporting a plurality of application environments, a method for enabling resource sharing, comprising: a) receiving a first response-time metric from a first component in a plurality of components that form a first application environment in said plurality of application environments (Zinky teaches the contract treads the modified system condition value of a software component. The software component is in the objects-oriented application) (Col. 5, L. 23-25; and Col. 7, L. 17-18; and Col. 9, L. 26-29); b) comparing said first response-time metric to a first service level objective associated with said first component (Zinky teaches the contract checks and adjusts the system conditions value of the software component to achieve the QoS level or the current contract region) (Col. 9, L. 34-46 and Col. 7, L. 23-25), wherein each of said plurality of service level objectives are dynamically changeable without predefinition (col.2, lines 10-25; "Through the use of this general purpose mechanism, a programmer obtains information regarding the dynamic system properties of the distributed system to facilitate the development of distributed, object-oriented applications. The mechanism supports QoS by permitting a client program in the distributed system to request a desired QoS, monitoring system conditions to provide the requested QoS, and reporting deviations to the client program to allow the program an opportunity to adapt to changes in the system conditions." – col.4, lines 4-14; also see col.7, lines 42-47); and c) optimizing the number of computational resources in said plurality of computational resources that are assigned to said first component in order to satisfy , said first service level objective (Zinky teaches "request changes to the allocation of system resources or to adapt to changing resource

availability". It can be interpreted as optimizing the number of system resources which need to be changed to satisfy or meet the QoS requirement. These system resources are in the client application component) (Col. 6, L. 30-35). Zinky does not explicitly teach a value of the system condition is a response-time metric. However, Zinky teaches "a quality object (QUO) framework integrates knowledge of system properties over time, space, and source to facilitate proper operation of a distributed application" (Col. 3, L. 5-7) as the value, such suggestion would motivate one ordinary skilled in the art to seek a practical and effective way of doing so. Friedrich teaches a plurality of metrics is a response-time metric (see Friedrich, abstract). Thus, it would have been obvious to one of ordinary skill in the art the time the invention was made to have incorporated the response-time metric, as suggested by Friedrich, in a system provides quality of service across a distributed object-oriented computer network of Zinky, in order to identify and measure quality of service in clientserver (or other components) and distributed applications operating in a plurality of application environments.

Regarding claim 11, Zinky teaches the method for enabling resource sharing as described in Claim 10, further comprising: at said first component, determining said first response-time metric, said first response-time metric characterizing quality of service for said first component (Zinky teaches a value of the system condition is set by the client, and the contract attempts to achieve this value to a QoS level) (Col. 7, L. 19-25); and sending said first response-time metric to said dynamic resource manager (Zinky teaches when a region transition occurs, the contracts sends a control command which

includes the values of the system conditions to a central resource utilization controller) (Col. 11, L. 5-29). Zinky does not explicitly teach a value of the system condition is a response-time metric. However, Zinky teaches "a quality object (QUO) framework integrates knowledge of system properties over time, space, and source to facilitate proper operation of a distributed application" (Col. 3, L. 5-7) as the value, such suggestion would motivate one ordinary skilled in the art to seek a practical and effective way of doing so. Friedrich teaches a plurality of metrics is a response-time metric (see Friedrich, abstract). Thus, it would have been obvious to one of ordinary skill in the art the time the invention was made to have incorporated the response-time metric, as suggested by Friedrich, in a system provides quality of service across a distributed object-oriented computer network of Zinky, in order to identify and measure quality of service in clientserver (or other components) and distributed applications operating in a plurality of application environments.

Regarding claim 12, Zinky teaches the method for enabling resource sharing as described in Claim 10, wherein b1) further comprises:
determining whether said first response-time metric falls within a first interval for said first service level objective in order to satisfy said first service level objective (Zinky teaches the contract determines whether a given value of the system condition (or the actual measured QoS) falls within the bounds of a "Normal" reality region. It means the QoS is achieved.) (Col. 6, L. 22-25, and Col. 7, L. 17-22, 39-41, 47-56; and figure 4). Zinky does not explicitly teach a value of the system condition is a response-time

metric. However, Zinky teaches "a quality object (QUO) framework integrates knowledge of system properties over time, space, and source to facilitate proper operation of a distributed application" (Col. 3, L. 5-7) as the value, such suggestion would motivate one ordinary skilled in the art to seek a practical and effective way of doing so. Friedrich teaches a plurality of metrics is a response-time metric (see Friedrich, abstract). Thus, it would have been obvious to one of ordinary skill in the art the time the invention was made to have incorporated the response-time metric, as suggested by Friedrich, in a system provides quality of service across a distributed object-oriented computer network of Zinky, in order to identify and measure quality of service in clientserver (or other components) and distributed applications operating in a plurality of application environments.

Regarding claim 13, Zinky taught the method for enabling resource sharing as described in Claim 12, further comprising:

if said first response-time metric exceeds said first interval, sending a first message to a first component manager associated with said first component to modify at least one available computational resource in said plurality of computational resources. However, Zinky teaches sending a request to the client application to change resource availability. Zinky fails to teach that adding as a form of modifying. Changing resource availability can be interpreted as adding resources when the value exceeds the "Normal" level or QoS. Moreover, the client application can be interpreted as a component manager (Col. 6, L. 26-35). At the time the invention was made, it would have been obvious to one of

ordinary skill in the art to send a request for adding resources availability in order to give the client application an opportunity to observe the high QoS and modify its behavior accordingly; if said first response-time metric falls below said first interval, sending a second message to said first component manager to modify at least one computational resource in said plurality of computational resources that is assigned to said first component. However, Zinky teaches sending a request to the client application to change resource availability. Zinky fails to teach that removing as a form of modifying. Changing resource availability can be interpreted as removing resources when the value falls short of the "Normal" level or QoS. Moreover, the client application can be interpreted as a component manager (Col. 6, L. 26-35, and Col. 7, L. 54-61). At the time the invention was made, it would have been obvious to one of ordinary skill in the art to send a request for removing resources in order to the client application uses this opportunity to change its operating behavior in accordance with the improved QoS; and perform no action, if said first response-time metric falls within said first interval (Zinky teaches if the value of the system condition falls within the bounds of a "Normal. Normal" reality region, the QoS is achieved) (Col. 6, L. 20-25, and Col. 7, L. 3241). Although Zinky does not explicitly teach closing the performance of no action, but it is well known in the art that once the actual measured QoS is in the normal reality region, it does not need to execute any transition. Zinky does not explicitly teach a value of the system condition is a response-time metric. However, Zinky teaches "a quality object (QUO) framework integrates knowledge of system properties over time, space, and source to facilitate proper operation of a distributed application" (Col. 3, L. 5-7) as the

value, such suggestion would motivate one ordinary skilled in the art to seek a practical and effective way of doing so. Friedrich teaches a plurality of metrics is a response-time metric (see Friedrich, abstract). Thus, it would have been obvious to one of ordinary skill in the art the time the invention was made to have incorporated the response-time metric, as suggested by Friedrich, in a system provides quality of service across a distributed object-oriented computer network of Zinky, in order to identify and measure quality of service in clientserver (or other components) and distributed applications operating in a plurality of application environments.

Regarding claim 14, Zinky teaches the method for enabling resource sharing as described in Claim 10, further comprising:
d) receiving a second response-time metric from a second component in said plurality of components (Zinky teaches the contract reads the modified system condition value of a software component. The software component is in the objectsoriented application) (Col. 5, L. 23-25; and Col. 7, L. 17-18; and Col. 9, L. 26-29); e) comparing said second response-time metric to a second service level objective associated with said second component (Zinky teaches the contract checks and adjusts the system conditions value of the software component to achieve the QoS level or the current contract region) (Col. 9, L. 34-46 and Col. 7, L. 23-25); f) determining whether said second response-time metric falls within a second interval for said second service level objective (Zinky teaches the contract determines whether a given value of the system condition (or the actual measured QoS) falls within the bounds of a "Normal" reality region. It means the

QoS is achieved.) (Col. 6, L. 22-25, and Col. 7, L. 17-22, 39-41, 47-56; and figure 4); and g) optimizing the number of computational resources in said plurality of computational resources that are assigned to said second component in order to satisfy said second service level objective (Zinky teaches "request changes to the allocation of system resources or to adapt to changing resource availability". It can be interpreted as optimizing the number of system resources which need to be changed to satisfy or meet the QoS requirement. These system resources are in the client application component) (Col. 6, L. 30-35). Zinky does not explicitly teach a value of the system condition is a response-time metric. However, Zinky teaches "a quality object (Qu0) framework integrates knowledge of system properties over time, space, and source to facilitate proper operation of a distributed application" (Col. 3, L. 5-7) as the value, such suggestion would motivate one ordinary skilled in the art to seek a practical and effective way of doing so. Friedrich teaches a plurality of metrics is a response-time metric (see Friedrich, abstract). Thus, it would have been obvious to one of ordinary skill in the art the time the invention was made to have incorporated the response-time metric, as suggested by Friedrich, in a system provides quality of service across a distributed object-oriented computer network of Zinky, in order to identify and measure quality of service in clientserver (or other components) and distributed applications operating in a plurality of application environments.

Regarding claim 15, Zinky fails to teach the method for enabling resource sharing as described in Claim 14, further comprising: if said second response-time metric exceeds

said second interval, sending said first message to a second component manager associated with said second component. However, Zinky teaches sending a request to the client application to change resource availability when the value exceeds the "Normal" level or QoS. Moreover, the client application can be interpreted as a component manager of other components (Col. 6, L. 26-35). At the time the invention was made, it would have been obvious to one of ordinary skill in the art to send a request in order to give the client application an opportunity modify its behavior accordingly; if said second response-time metric falls below said second interval, sending said second message to said second component manager. However, Zinky teaches sending a request to the client application t:o change resource availability when the value falls short of the "Normal" level or QoS. Moreover, the client application can be interpreted as a component manager of other components (Col. 6, L. 26-35, and Col. 7, L. 54-61). At the time the invention was made, it would have been obvious to one of ordinary skill in the art to send a request in order to the client application uses this opportunity to change its operating behavior in accordance with the improved QoS; and perform no action, if said second response-time metric falls within said second interval. (Zinky teaches if the value of the system condition falls within the bounds of a "Normal. Normal" reality region, the QoS is achieved) (Col. 6, L. 20-25, and Col. 7, L. 32-41). Although Zinky does not explicitly teach closing the performance of no action, but it is well known in the art that once the actual measured QoS is in the normal reality region, it does not need to execute any transition. Zinky does not explicitly teach a value of the system condition is a response-time metric. However, Zinky teaches "a quality object

(QUO) framework integrates knowledge of system properties over time, space, and source to facilitate proper operation of a distributed application" (Col. 3, L. 5-7) as the value, such suggestion would motivate one ordinary skilled in the art to seek a practical and effective way of doing so. Friedrich teaches a plurality. of metrics is a response-time metric (see Friedrich, abstract). Thus, it would have been obvious to one of ordinary skill in the art the time the invention was made to have incorporated the response-time metric, as suggested by Friedrich, in a system provides quality of service across a distributed object-oriented computer network of Zinky, in order to identify and measure quality of service in clientserver (or other components) and distributed applications operating in a plurality of application environments.

Claim 24 has similar limitations as claim 9 but in system form rather than method form. Therefore, the supporting rationale of the rejection to claim 9 applies equally as well to claim 24.

Response to Arguments

9. Applicant's arguments with respect to claims 1-24 have been considered but are moot in view of the new ground(s) of rejection.

With respect to applicant's argument that the prior art reference dose not teach or suggest a dynamically changeable service objectives or quality of service objectives.

First of all, Applicant fails to specifically claim a dynamically changeable service objectives or quality of service objective. However, Zinsky does show this broad

limitation "Through the use of this general purpose mechanism, a programmer obtains information regarding the dynamic system properties of the distributed system to facilitate the development of distributed, object-oriented applications. The mechanism supports QoS by permitting a client program in the distributed system to request a desired QoS, monitoring system conditions to provide the requested QoS, and reporting deviations to the client program to allow the program an opportunity to adapt to changes in the system conditions." – col.4, lines 4-14; also see col.7, lines 42-47.

Secondly, the Examiner is unclear what are dynamic changeable objectives in relation to a predefinition. It is also unclear what is a 'predefinition'?.

Conclusion

10. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeffrey C. Pwu whose telephone number is 571-272-6798.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Wiley can be reached on 571-272-3923. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

10/6/05
JEFFREY PWU
PRIMARY EXAMINER